

## REMARKS

The Office Action mailed 14 October 2009, has been received and its contents carefully noted. Claims 19-25 were pending, claims 22 and 23 were withdrawn, and claims 19-21, 24 and 25 were rejected. By this amendment, claims 26-31 have been added, and claims 19-21 have been amended. Support may be found in the specification and the claims as originally filed. No statutory new matter has been added. Therefore, reconsideration and entry of the claims as amended are respectfully requested.

### Interview Summary

Applicants appreciate the Examiner taking the time to conduct a telephonic interview on 22 December 2009. During the interview, the Examiner indicated that a 1.132 Declaration and evidence showing that compound 2 of the present invention is more active than compound 73 of Desbordes at one third of the amount may be suitable unexpected superior results sufficient to overcome the obviousness rejection of record. The Examiner indicated that the scope of the claims must be consistent with the evidence and Declaration. However, the Examiner indicated that claims limited to compound 2 are likely unduly limited and unnecessary. Thus, the Examiner suggested Applicants limit R<sub>10</sub> to a halogen, and R<sub>4</sub> to R<sub>9</sub> and R<sub>11</sub> to be limited to H or a C<sub>1-6</sub>alkyl and add new claims directed to compound 2. The Examiner said that he would then contact the undersigned should further amendments be necessary.

Applicants greatly appreciate the Examiner's thoughtful consideration and recommendations.

### Rejection under 35 U.S.C. 103(a)

The Examiner rejected claims 19-22, 24 and 25 under 35 U.S.C. 103(a) as being unpatentable over Desbordes (WO99/33812).

As stated by the Examiner, Desbordes discloses compounds that remove at least 75% of the fungus from plants after a 24 hour treatment of a given concentration of the given compound. Example B1 of Desbordes lists the compounds that remove at least 75% of the fungus, *Puccinia recondita*, at 40 ppm. Example B1 of Desbordes does not list compound 73. Thus, compound 73 is ineffective in removing at least 75% of *Puccinia recondita* at 40 ppm.

Applicants respectfully submit the following results from experiments conducted by (I) Dow AgroSciences Ltd. (Dow), and (II) the inventors and a 1.132 Declaration by Changling Liu.

# I. Dow Data

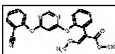
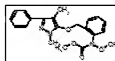
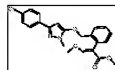
As set forth in the Declaration by Liu, which is submitted herewith, Dow tested the activity of compound 2 of the instant invention against *Puccinia recondita* at 200 ppm, 50 ppm and 12.5 ppm using a 1 day protectant (1DP) test as described on pages 53-56 of WO 2006047397.

The results are set forth in the following Table A:

Table A

TN 181339 Results

		1 Day Protectant Percent Disease Control						
Material ID	Lot Label	Inpm]	COCHSA	COLLA	LEPTNO	PSPECU	PUCCRT	PYRILOR
11427395	XS8-SYP3343	200	93	100	99	100	100	98
		50	95	100	98	100	100	94
		12.5	93	99	84	100	100	94
11450976	XS8-SYP4155	200	95	100	99	100	100	100
		50	95	99	95	100	100	99
		12.5	93	79	87	97	100	98
538237	ZZ7-124082-1 azoxystrobin	50	96	100	97	100	100	97
		12.5	96	95	88	100	100	95



As set forth in Table A, XS8-SYP3342 is compound 2, PUCCRT = *Puccinia recondita* and LEPTNO is *Septoria nodorum*. As shown in Table A, compound 2 is 100% effective at 12.5 ppm against *Puccinia recondita*.

Although side-by-side experiments were not conducted with compound 73 of Desbordes, it is noted that Example B1 of Desbordes does not list compound 73. Thus, at 40 ppm, compound 73 was not at least 75% effective against *Puccinia recondita*. Surprisingly, the Dow data indicates that compound 2 of the present invention is 100% effective at only 12.5 ppm against *Puccinia recondita*. Thus, compound 2 is 100% effective at 1/3 the dose. In other words, compound 2 is at least 66% more active against *Puccinia recondita* as compared to compound 73

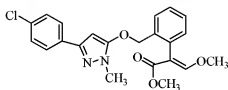
of Desbordes.

Applicants respectfully submit that 66% more activity is evidence that the compounds of the present invention exhibit superior and unexpected antifungal activities.

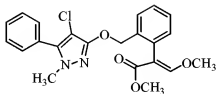
#### IIA. Inventor data

Since Applicants do not have side-by-side experiments and the 75% measurements of Desbordes are minimum threshold indicators, Applicants submit the following experiments and data conducted by the inventors as set forth in the Liu Declaration.

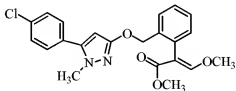
The formula of compound 2 (SYP-3343) in the invention is as follows:



The formula of compound 73 of Desbordes is as follows:



Since Applicants do not have side-by-side experimental data for compound 2 and compound 73, Applicants respectfully submit the side-by-side experimental data of compound 2 and SYP-3342. The formula of SYP-3342 is as follows:



Applicants respectfully submit that the structural formula of SYP-3342 is substantially similar to compound 73 of Desbordes such that one skilled in the art would reasonably believe that the biological activity of SYP-3342 should also be substantially similar. Thus, SYP-3342 and its activity are representative of that of compound 73 of Desbordes.

Compound 2 (SYP-3343) and SYP-3342 were tested for ability to control plant diseases in a 1-day protectant test (IDP). The activities provided below are the average of two repeated

tests.

The IDP activities of compound 2 and SYP-3342 against wheat powdery mildew (*E. graminis*) after 7 days are set forth in Table B.

compound	Table B				
	Activity after 7 days %				
	200 ppm	50 ppm	12.5 ppm	3.13 ppm	0.78 ppm
SYP-3342	100	50	0	0	0
compound 2 (SYP-3343)	100	96.5	82.5	50	15

As shown in Table B, at 50 ppm, compound 2 exhibited almost 50% more activity than SYP-3342 after 7 days. Thus, it can be extrapolated that compound 2 is almost 50% more active than compound 73 of Desbordes against wheat powdery mildew.

The IDP activities of compound 2 and SYP-3342 against cucumber downy mildew after 1 day are set forth in Table C.

compound	Table C	
	Activity %	
	25 ppm	6.25 ppm
SYP-3342	0	0
compound 2 (SYP-3343)	100	100

As provided in Table C, compound 2 exhibits 100% activity against cucumber downy mildew at 6.25 and 25 ppm, whereas SYP-3342 does not. Thus, it can be extrapolated that compound 2 is 100% more active than compound 73 of Desbordes against cucumber downy mildew.

Applicants respectfully submit that 50-100% more activity is evidence that the compounds of the present invention exhibit superior and unexpected antifungal activities.

#### IIB. Additional Data

Assuming that the data of Desbordes indicates that compound 73 exhibits, at 40 ppm, 75% activity against *Septoria nodorum*, the compounds of the present invention exhibit superior and unexpected antifungal activities (see Table A). Specifically, compound 73 had only had 75% activity at 40 ppm, whereas compound 2 exhibited 93% activity against *Septoria nodorum*, at

12.5 ppm. Additionally, compound 2 exhibited 100% activity at 12.5 ppm against *Puccinia recondita*. Since 12.5 ppm is more than one third less than the amount needed for compound 73 to provide 75% activity, compound 2 is 18% to at least 25% more active at 1/3 the amount. Applicants respectfully submit that the 18% to at least 25% increase in activity at 1/3 the dose is unexpected.

Applicants respectfully submit that the above experimental data indicates that the compounds of the present invention exhibit unexpected superior results, i.e. 18 to 100% increase in antifungal activity. Nowhere does Desbordes teach or suggest that the compounds of the instant invention will exhibit 18-100% increase in antifungal activity. Therefore, the claimed invention is novel and unobvious.

Applicants also tested the activity of compound 2 against rice blast, cucumber grey mold and tomato late blight at various doses. The results are shown in Table D.

Table D																	
pathogen	rice blast ( <i>P. oryzae</i> )							cucumber grey mold ( <i>B. cinerea</i> )				tomato late blight ( <i>P. infestans</i> )					
Dose ppm	25	8.3	2.7	0.92	0.3	0.1	0.03	25	8.3	2.7	0.92	25	8.3	2.7	0.92	0.3	0.1
Compound 2 activity %	100	100	100	80	80	50	0	100	80	80	80	100	100	100	80	50	0

As shown in Table D, compound 2 exhibited 80% activity at doses of 0.92 ppm.

Applicants respectfully submit that nowhere does Desbordes teach or suggest that position 5 isomers will exhibit 80% activity against rice blast, cucumber grey mold and tomato late blight at 0.92 ppm.

Applicants tested compound 2 against cucumber downy mildew, wheat powdery mildew and cucumber anthracnose at various doses. The results are show in Table E.

Table E													
pathogen	cucumber downy mildew ( <i>P. cubensis</i> )				wheat powdery mildew ( <i>E. graminis</i> )					cucumber anthracnose ( <i>C. orbiculare</i> )			
Dose ppm	25	12.5	6.25	3.125	25	6.25	1.56	0.39	0.1	25	12.5	6.3	3.125
Compound 2 activity %	100	100	98	90	100	95	70	30	15	100	100	95	70

As shown in Table E, compound 2 exhibited at least 95% activity at 6.3 ppm. Applicants respectfully submit that nowhere does Desbordes teach or suggest that position 5 isomers will exhibit at least 95% activity against cucumber down mildew, wheat powdery mildew and cucumber anthracnose at 6.3 ppm.

Applicants also tested the insecticidal and acaridal activity of compound 2. The results are shown in Table F.

Table F												
pathogen	Carmine spider mite			army worm			culex mosquitoes			cotton aphid		
Dose ppm	160	80	40	400	200	100	20	10	5	50	25	12.5
Compound 2 activity %	56	53	40	100	90	90	100	100	100	100	95	80

As shown in Table F, compound 2 exhibits insecticidal and acaridal activity. Applicants respectfully submit that nowhere does Desbordes teach or suggest that position 5 isomers will exhibit insecticidal and acaridal activity as well as antifungal activity.

Applicants respectfully submit that the data set forth above and Declaration by Liu evidence the unexpected and superior results of the present invention as claimed.<sup>1</sup>

Therefore, in view of the foregoing, Applicants respectfully submit that claimed invention is unobvious and the rejection under 35 U.S.C. 103(a) should be withdrawn.

### Request for Rejoinder

Applicants respectfully submit that claims 24 and 25 (formerly claims 8 and 9) are of the same scope as the composition claims which are believed to be allowable. Therefore, rejoinder and examination of claims 24 and 25 are respectfully requested.

---

<sup>1</sup> Applicants also submit a (2009) manuscript by the inventors (Li et al.) which set forth the superior activity of compounds which fall within the scope of the claimed invention.

### **Request for Interview**

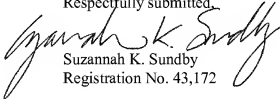
Either a telephonic or an in-person interview is respectfully requested should there be any remaining issues.

### **CONCLUSION**

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Therefore, it is respectfully requested that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Official action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, in the event that additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. 1.136(a), and any fees required therefor are hereby authorized to be charged to **Deposit Account No. 02-4300**, Attorney Docket No. **034226 M 003**.

Respectfully submitted,



Suzannah K. Sundby  
Registration No. 43,172

Date: 26 February 2010  
SMITH, GAMBRELL & RUSSELL, LLP  
1130 Connecticut Ave., NW, #1130  
Washington, D.C. 20036  
Telephone: (202) 263-4332  
Fax: (202) 263-4352